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Migration, tourism and international trade: Evidence from the UK

Research Memorandum 2011-29

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Peter Nijkamp**



MIGRATION, TOURISM AND INTERNATIONAL TRADE: EVIDENCE FROM THE UK

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Abstract

This paper examines the hypothesis that a greater stock of migrants and flows of tourists in the United Kingdom from a particular country increases bilateral trade between the United Kingdom and country of origin. The literature and empirical findings show that migrants and tourists can stimulate trade. We use a panel data technique within a framework of a gravity model. Our panel includes 23 countries¹ for the years 2001 to 2006. Our empirical findings show that immigration and tourist flows have export-enhancing effect.

¹Australia, Belgium, Canada, China, Denmark, Finland, France, Germany, Greece, India, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Pakistan, Poland, Portugal, Spain, Sweden, Turkey, the United States.

1. Introduction

The world has witnessed a process of globalization in the recent decades. The result of this process is a widening and deepening integration of countries, a stimulation of human mobility, and an intensification of people's movement in travel and migration (Poot and Strutt, 2009). The partial elimination of visa requirements among developed nations encouraged people to live and work wherever they want to. As a result, people moved to places where they could find better job opportunities and living conditions. Nearly four percent of the world's population now live and work in a country they were not born in (OECD, 2006). Meanwhile, the growth in tourism was even stronger with 700 million worldwide tourist trips in 2000 as compared to 25 million in 1950 (Fischer, 2007). In line with this, OECD figures indicate that the world's international trade and services have grown from less than 6 percent of world GDP in 1950 to 25 percent of world GDP in 2007 (Lewer and Van den Berg, 2009).

Immigration and tourism as a continuing permanent characteristic of human mobility are not stand-alone activities, but are often accompanied by related economic activities. In particular, the stock of immigrant and tourist flows can impact on bilateral trade between the host country and the country of origin. Among the developed countries, the UK is one of the important destinations for international migration and tourist flows. In recent years, immigration in the UK has increased. According to the OECD Factbook (2009), foreign-born citizens as a percentage of the total population in the UK increased from 8.2 percent in 2001 to 10.1 percent in 2006, giving the UK a net gain of 1.9 percent in a period of six years. On the other hand, we also observe an increase in the total export and import volumes of the UK. For example, total export and import volumes have significantly increased from 2001 to 2005. Table 1 shows the increase in immigration, tourism and bilateral trade for the countries concerned.

Table 1: Changes in the UK's migrant stock, tourist flows, export and import, 2001 2006

Country	Tourism flows (000)		Immigrants' stock (000)		Total export (\$ billions)		Total import (\$ billions)	
	2001	2006	2001	2006	2001	2006	2001	2006
Australia	554	734	67	88	3.35	7.94	2.65	6.99
China	119	177	24	73	2.47	6.05	8.59	28.77
France	2374	2644	82	110	25.72	76.48	24.94	66.74
Germany	1892	2757	59	91	31.16	81.43	37.92	123.02
India	176	311	132	258	2.57	4.99	2.71	5.86
Poland	209	1269	34	209	1.87	3.82	1.72	4.99
United States	2983	2984	148	132	42.79	105.07	45.06	83.84

Source: Authors' elaboration based on ONS, IMF (direction of trade statistics) and OECD databases

As Table 1 shows, UK imports and exports have grown substantially over the period of 2001-2006 with the countries mentioned. Meanwhile, for some countries like India, China and Poland the stock of immigrant and tourist flows have increased significantly during the period concerned. The bilateral trade has also increased markedly between these countries, but as the data show, this concerns the imports to the UK rather than the exports. The increase in the stock of migrants and flow of tourists seems to have a close relationship with more bilateral trade. This hypothesis will be tested in the present paper.

This paper is organized as follows. In the next section we present a literature review. Section 3 discusses the data and the methodology used in this paper. Section 4 presents empirical findings. And, finally, Section 5 contains the conclusions.

2. Literature Review

In order to clarify the relationship between migration, tourism and trade, we will address the relationship between immigration and bilateral trade, and tourism and bilateral trade in two separate subsections.

2.1. *Immigration-link impacts on bilateral trade*

Immigrants bring with themselves their own culture, traditions and language. They also have demand for the products of their countries of origin, and this can stimulate international trade between the host and home country. Furthermore, they also carry information (or have information networks) regarding trading contracts and the basic tools of trust for better trading. This reduces the transaction cost and may enhance and facilitate bilateral trade between the host country and the country of origin. Thus, it seems plausible that an increasing stock and increasing flow of immigrants may be accompanied by an increase in international trade.

Studies have found a close relationship between immigration and international trade (Rauch and Trindade 2002). Gould (1994) analyzed the impact of immigration on trade between the US and 47 trading partners between 1970 and 1986. He observed that exports were influenced to a greater extent by immigration than by imports and that immigration affects trade in consumer goods rather than trade in production goods. Furthermore, he found that the immigrant-link effect exhausts itself as the number of immigrant increases over time. According to Head and Ries (1998), immigrants are the bridge between their country of origin and the host country, and they conclude that immigration have a significant positive effect on exports and imports of the host country. Rouch (1999) explores the impact of geographical proximity, language and colonial ties. He finds that the above three characteristics are statistically significant in international trade, in particular for brand names. Girma and Yu (2000) who divide the stock of immigrants in the UK into Commonwealth and Non-Commonwealth areas, find that the stock of immigrants from Non-Commonwealth countries has a significantly more export-enhancing effect than the stock of immigrants from

Commonwealth countries. This was in fact due to the fact that non-commonwealth immigrants had new market information. Mundra (2005) concludes from US data, that the effect of immigration on import is positive in both finished and intermediate goods, but that the effect of immigration on exports is only positive for finished goods. Finally, in a recent study, Lewer and Van den Berg (2009) find from the OECD countries, on average, all other things equal, a 10 percent increase in immigration from original country to the host country, leads to an increase of 4.5 percent of the total trade volumes between these two countries.

2.2 *Immigration-link impacts on tourism*

Migration and tourism have been studied independently of one another up to the second half of the 20th century (Bell and Ward 2000). This lack of attention to the interrelationships between migration and tourism may be due to the lack of appropriate data and the absence of a solid theoretical framework. The interrelationships between immigration and tourism are complicated and intertwined. The difficulty comes from the core of these two subjects since there is no unambiguous definition for both migration and tourism (Hall and Williams 2000).

We will investigate now whether a higher stock of immigrants and total number of tourist flows has an impact on more bilateral trade with the UK. We will take into account the merchandise exports and imports, as well as tourism.

3. **Data and Methodology**

3.1. *Model specification*

The theory and econometric test in our paper regarding the relationship between migrations, tourist flows and bilateral trade is based on a gravity model of trade. This model is commonly used in empirical trade research, and has the ability to explain the statistical patterns in international trade volumes (Law et al. 2009). Therefore, our work is also based on this commonly accepted framework. Following Gould (1994), we use the gravity model of trade by immigration and tourism variables to estimate the impact of stock of immigrants and flow of tourists on bilateral trade. The gravity equations for export including the stock of immigrants and flow of tourists can be represented as:

$$\log(Y_{it}) = \lambda_0 + \sum_{t=1}^6 \lambda_1 D_t + \beta_1 \log(M_{it}) + \beta_2 \log(POP_{it}) + \beta_3 \log(GDP/capita_{it}) + \beta_4 \log(Tour_{it}) + \beta_5 \log(Dis_i) + \lambda_2 EU_i + \lambda_3 Lang_i + \mu_{it} \quad (1)$$

$$i = 1, \dots, 23^2 \quad t = 1, \dots, 6$$

² Australia, Belgium, Canada, China, Denmark, Finland, France, Germany, Greece, India, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Pakistan, Poland, Portugal, Spain, Sweden, Turkey, the United States.

where,

Y_{it} = is export of goods from the UK to the home country i in t time, or import of goods from the country i in time t to the UK. It also takes total tourists flow from country i into the UK in time t ,

M_{it} = stock of immigrants from country i at time t ,

POP_{it} = population of country i at time t ,

$GDP/capita_{it}$ = GDP per capita of country i at time t ,

Dis_i = distance between the UK and country i ,

EU = dummy variable: 1 for an EU member and 0 otherwise,

$Lang$ = dummy variable: 1 for English speaker and 0 otherwise,

D_t = time-dummy variable.

in the above model, $i = 1, \dots, 23$ denotes the cross-section of countries and $t = 1, \dots, 6$ stands for the time period.

3.2 Data

The data we used for this study come from different sources and all data are in natural logarithm apart from dummy variables. The stock of immigrants rather than the flow of migrants are used. This variable allows us to test the impact of those people who have already immigrated to the host country rather than those who are immigrating. Thus, the larger the stock of immigrants from a particular country, the higher its effect on trade. The flow of tourists by nationality is used to capture the impact of tourism on trade. The IMF Direction of Trade Statistics was used to obtain bilateral trade data. The exports are valued “free on board” (f.o.b) and all imports “cost, insurance and freight” (c.i.f). We used World Development Indicator from the World Bank for GDP per capita at the current US dollar and this variable captures the potential market size. We used distance data from Jon Haveman’s web page, which is based on the Great Circle distances between the capital cities. We used dummy variables, in particular for language and EU (European Union) member, which takes the value of one for those countries which are speaking English language and are member of European Union and zero, otherwise. We also added the time-dummy variables in order to capture the time-effect of main variables during the mentioned period.

4. Empirical Results

The regression results for exports show that 92 percent of the variation in the dependent variable is explained by the corresponding regression. The result is slightly lower for imports (87 percent). The estimated results show that the GDP/capita is positively related to the dependent variables and it is also significant at a one percent level in exports and imports, respectively. This means that a one percent increase in GDP/capita of origin country leads to

an increase in exports by 0.64 percent and an increase in imports by 0.70 percent. The GDP per capita coefficient shows that the United Kingdom trades more with larger economies. Concerning the interested variable the “stock of immigrant”, it is significant at 10 percent level in the export. In response to an assumed 10 percent increase in the immigrants stock, the United Kingdom export to the typical home country is estimated to increase by 0.16 percent. This results confirms the proportional influence of immigrants on host country exports which was also reported by Gould (1994), Girma and Yu (2000) and White and Tadesse (2007). However, according to our empirical results there is no relationship between immigration and imports.

Tourist flows are also positively related to the dependent variables (export and import) but it is only significant at 5 percent for the export. This indicates that a 5 percent increase in the flow of tourists increase the exports by 0.22 percent. The population is positively related to export and import and it is significant at one percent in both dependent variables, respectively. This means that larger markets in terms of population have exchange of commodities with the United Kingdom.

The countries which are part of the European Union and countries speaking the same language (English) imports trade commodities from the United Kingdom. Language and being member of European Union do not have an impact on the imports of commodities into the United Kingdom according to our empirical results.

The geographical distance between the United Kingdom and origin countries, plays a significant role. Our empirical results show that geographical distance is significant at five percent and negatively related to both export and import, respectively. This means that five percent increase in geographical distance between the United Kingdom and origin countries, decrease export of commodities from the United Kingdom to the origin countries by -0.21 percent and import of commodities from the origin countries to the United Kingdom by -0.27 percent.

5. Conclusion

In this paper we have analyzed the relationship between migration, tourism and bilateral trade by using panel data. The aim of this paper was to see whether immigration and tourism have an impact on the increase of bilateral trade to and from the UK. The results from the regression support the hypothesis that, as the stock of migrants and tourist flow increases, they have a positive impact on exports. However, our results show that stock of immigrants and flow of tourist do not have an impact on import of commodities in the United Kingdom.

Our results confirm the findings from previous studies³, which have also shown that there is a close relationship between migration, tourism and bilateral trade.

In conclusion, migration, international tourism and international trade are closely interrelated phenomena. It is also evident from the literature that there is a clear positive correlation between migration, tourist and international trade. This may create substantial economic advantages for countries.

Table 2: Bilateral trade flows between the UK and home countries

Variable	Exports	Imports	Tourist inflows
Constant	-10.7549 (1.1532)*	-8.4358 (0.9018)*	-6.1907 (1.9128)*
Migrants	0.2452 (0.0897)**	0.2796 (0.1560)***	0.4269 (0.0998)*
Population of country (i)	0.7747 (0.0809)*	0.6730 (0.0703)*	0.6729 (0.1326)*
GDP/capita of country (i)	0.9088 (0.0679)*	0.8045 (0.0680)*	0.8194 (0.0949)*
Distance	-0.1970 (0.1300)	-0.2757 (0.1516)***	-0.0436 (0.1347)
EU	1.6043 (0.4063)*	0.5931 (0.5180)	1.8574 (0.4030)*
Language	0.9437 (0.3075)*	0.1196 (0.3859)	1.1857 (0.2844)*
Y2002	-0.0228 (0.0372)	-0.0139 (0.0513)	-0.2147 (0.2276)
Y2003	-0.1261 (0.0525)**	-0.0320 (0.0585)	-0.1663 (0.1057)
Y2004	-0.0759 (0.0643)	0.0687 (0.0641)	-0.1040 (0.1095)
Y2005	-0.2517 (0.0772)*	-0.1144 (0.1064)	-0.1830 (0.1441)
Y2006	0.4332 (0.0976)*	0.4842 (0.1061)*	-0.1104 (0.1340)
Adjusted R²	0.92	0.87	0.84
Observations	125	125	130
Wooldridge test Prob>F	0.8522	0.000	0.4691

Note: Standard errors are in parentheses and they are in robustness. * indicates significant at 1 percent, ** indicates significant at 5 percent, and *** indicates significant at 10 percent.

³ Refer to literature review

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